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Minutes

Board of Building Regulations and Standards

Fire Prevention Fire Protection (FPFP) Advisory Committee

RJA, Inc. - 1661 Worcester Road – Suite 501, Framingham, MA - Conference Room

October 9, 2014, 1:30 p.m.

1. Roll Call - Call to Order 1:34 pm

- | | | | | | |
|----------------------------------|----------------------------------|---------------------------------|-------------------------------------|----------------------------------|---------------------------------|
| a. Robert Carasitti Chair (RC) | ✓ present | <input type="checkbox"/> absent | g. Chief Gary McCarraher (GM) | ✓ present | <input type="checkbox"/> absent |
| b. Dave LeBlanc V-Chair (DL) | ✓ present | <input type="checkbox"/> absent | h. Boston Fire Commissioner | ✓ present | <input type="checkbox"/> absent |
| c. Walter Adams (WA) | <input type="checkbox"/> present | ✓ absent | Paul Donga for BFD (PD) | | |
| d. Don Contois (DC) | ✓ present | <input type="checkbox"/> absent | i. State Fire Marshal (or designee) | ✓ present | <input type="checkbox"/> absent |
| e. Harold Cutler (HL) | <input type="checkbox"/> present | ✓ absent | Jen Hoyt for the SFM | | |
| f. Rob Anderson (RA or designee) | ✓ present | <input type="checkbox"/> absent | j. Kurt Ruchala (KR) | <input type="checkbox"/> present | ✓ absent |
| Mike Guigli for RA (MG) | | | k. Louise Vera (LV) or Alternate | ✓ present | <input type="checkbox"/> absent |
| | | | Jeff Putnam (JP) for LV | | |

The chair noted that with 8 members present a quorum was achieved.

General note on format: votes are noted as (Motion by: XX, Second by: XX, Vote: In Favor-Opposed- Abstaining).

2. Review and approval of minutes from September 25 meeting

JH commented on:

- Item 3, paragraph 2 - Correct spelling of name and
- Item 4 paragraph 10 - Her recollection was the committee was also concerned about fire spreading into the building through unsprinklered concealed spaces allowed by NFPA 13R systems. The paragraph should be revised to reflect that point.

DC commented on: Item 4 after last paragraph - The minutes should reflect committee members are willing to work with the proponents on alternate proposals as discussed.

MG commented on:

- Item 5, paragraph 2 – The second sentence should be edited to reflect changes he provided in writing and which he read aloud to the committee. In summary the effect of the edit was to note more specifically MG comments and
- Item 5 paragraph 5 – Correct two typographical errors.

A motion was made to have the chair completes edits to reflect the above comments and approve as noted.

Motion: GM so moved 2nd: DL Vote: 8-0-0

3. Comparison of evaluations related to certain fire protection of wood frame elements in residential construction

The FPPF continued its discussion and work on the requested comparison review. The chair reviewed the committee's activity through the last meeting on September 25. The committee was in agreement that the evaluation criteria between AC14 and EC017 were essentially equivalent with the exception of the deflection criteria under Failure Method. The remaining aspects including Test Method, the remaining Failure Method criteria, The Conditions of Acceptance/Evaluation and Test Specimen were essentially equivalent. Also, Additional Information was deemed insignificant for the comparison task.

FPPF, through the chair, requested input from structural advisory committee members as to the difference in deflection criteria. An email response was provided by structural advisory indicating that the maximum deflection criteria of AC14 is more conservative while the deflection rate is more conservative in EC017. They also expressed some concern that the maximum deflection of EC017 may be excessively permissive when applied to I Joists.

The chair also relayed that IAPMO provided a letter addressing in part the specific issue of deflection criteria and pointed out that the EC017 deflection criteria is taken directly from the most recent ASTM E119 criteria. The chair proceeded to show a copy of the 2012 Edition of E119 and the specific Section 8.8.4 Conditions of acceptance relative to deflection. The criteria is the same as in EC017 as identified by IAMPO.

The committee proceeded to discuss a motion relative to the BBRS assignment. Several committee members raised a concern with the time duration aspect of both evaluations relative to the code requirement which intends for equivalency to exposed 2x10 floor system. The chair noted that the criteria for both evaluations use a condition of evaluation that requires equal or better minimum duration calculated using Chapter 16 of National Design Specification (NDS) using 2x10 floor joists, 3sided fire exposure, nominal char rate of 1.5in/hr, bending strength to ASD ratio of 2.85, and load corresponding to 50% ASD bending design load (EC017 Section 6.2.3, AC14 Section A4.4.1.5).

The committee proceeded to take up and vote on two motions:

Motion #1: A motion was recommended as follows:

The FPPF charges the chair with expressing to the BBRS an overriding concern regarding the "duration" aspect and evidence that equal or better duration has been achieved by the alternate method.

Motion: GM so moved 2nd: PD Vote: 6-1-1 JP opposed, MG abstained

Motion #2: A motion was recommended as follows:

The FPPF has reviewed the evaluation and acceptance criteria provided by IAMPO Uniform ES EC017 2014 and ICC ES AC14 for the fire resistance of coated wood I joists. The FPPF has determined the evaluation and acceptance criteria in both documents is essentially equivalent.

Motion: DL so moved 2nd: DC Vote: 5-3-0 PD, GM and JH opposed

4. Evaluate and comment on code change proposals for exterior walls with foam plastic insulation

The FPPF continued its discussion on the code change proposals for exterior walls. A total of four code change proposals were submitted for review and comment. Some are proposed to the current 8th Edition and others are identified for the 9th Edition.

The chair reviewed the past meeting activities and motions:

- a. Motion #1: A motion was made to recommend to the BBRS that they not entertain changes to the 8th at this time and handle all proposals as proposals related to the 9th.

In support of the motion it was identified that the Model 15 effort just concluded and the BBRS is underway with reviews for the 9th Edition. Also, it was noted the proposed changes to the 8th were not meeting the conditions for emergency amendment as previously explained. Therefore, the required process for adoption of code changes (EO 485 review, BBRS votes, postings, hearings, comment periods, etc. will result in a lengthy process that will parallel the 9th adoption and therefore only be in effect for a matter of weeks before the 9th is in effect.

In opposition to the motion it was identified that detailing for exterior walls is a “real” and “current” problem. Given the unique characteristics of every wall, and considering the criteria for NFPA 285 to be an “assembly” test (as opposed to components), most often the only viable method of obtaining approval is through engineering judgments.

Motion: TR so moved 2nd: GM Vote: 8-3-0 MG, DC and HC dissented

- b. The FPDF next took up the specific proposal for 1403.5 identified as Part 1 which exempts flashing as part of the weather barrier. The FPDF did not object to the proposal but noted that it does not follow the BBRS criteria of the Model 15 effort.
- c. The FPDF next reviewed the specific proposal for 1403.5 identifies as part 2 which includes an exception for sprinklered low-rise buildings.

The ensuing discussion noted that the NFPA 285 is a measurement tool for exterior fire spread from both fire originating in the interior of the building and breaking out of openings as well as for fires originating on the exterior of the building. The latter from the simple measure of fire spread within the test protocol and criteria.

Members expressed concern that while the sprinkler protection in low rise buildings protects against fires originating inside the building, they do not address the fires originating on the exterior of the building. The origins of the exterior fire spread criteria were reviewed including some historical fires where the fire ignition was on the exterior of the buildings.

Members expressed more concern with NFPA 13R equipped buildings which do not address numerous concealed areas. Fire in these areas can lead to fire breaking through to the exterior as well as fires on the exterior spreading through these spaces.

The discussion next reviewed fire-fighting abilities for exterior fires as anecdotal comments were made in the other code proposals that fire department ladder trucks and other aerial equipment can address the low-rise building fires. Several commented on the challenges that face fire-fighting efforts even for low rise buildings including the fact that aerial access is most often not available to all façades. Frequently, only one side of the building is accessible with an aerial apparatus and then access to the fire becomes an “internal break through” effort (this is where fire department have to breach the exterior wall from the interior and create an opening to then access the fire and perform manual operations.

There was another point made that exterior fires require exceptional amounts of water to fight. Often the fire flow has been substantially reduced under the sprinkler allowance provisions in the fire flow calculation.

A motion was made to recommend denial of the code change proposal. Through friendly amendment it was added that if BBRS felt it was going to approve the proposal, they do so only with the following conditions: 1) only for low-rise buildings with NFPA 13 systems and 2) where fire flow analysis has been performed without sprinkler decrease allowances that shows adequate water is available.

Motion: KR so moved 2nd: TR Vote: 9-2-0 WA and MG dissented

- d. The subject of the two code change proposals to Chapter 26 were tabled until the next meeting so members could consider the new alternate approaches to the NFPA 285 test approach.

The FPDF next reviewed the two code change proposals relative to 2603.5.5. Both are effectively requesting the same modifications: the first is to the 2009 IBC as currently adopted by the 8th and the second is to the 2015 IBC language as proposed for the 9th.

There are two parts to the proposal:

- a. Part 1 – Add an additional exception for low rise buildings sprinklered throughout in accordance with either NFPA 13 or 13R.

Part 2 – Add two additional options for compliance in lieu of NFPA 285 testing:

- b. The first additional option (2603.5.5.2 as submitted) is similar to Exception 2 in the 2015 IBC Section 2603.5.5 – Noncombustible coverings.
- c. The second additional option (2603.5.5.3 as submitted) is to provide specific fire-blocking.

Each a, b and c were reviewed separately.

A motion was made that the same recommendation be made with regard to the additional exception for low rise sprinkler protected buildings (as was done for the 1403.5 Part 2 proposal) for the same reasons discussed on that matter. The chair repeated that motion wording for the committee.

A motion was made to recommend denial of the code change proposal. Through friendly amendment it was added that if BBRS felt it was going to approve the proposal, they do so only with the following conditions: 1) only for low-rise buildings with NFPA 13 systems and 2) where fire flow analysis has been performed without sprinkler decrease allowances that shows adequate water is available.

Motion: DC so moved 2nd: JH Vote: 7-0-1 MG abstained

The FPDF next discussed the first additional option to use noncombustible coverings in lieu of the NFPA 285 test. It was noted that this option is similar to Exception 2 to 2015 IBC Section 2603.5.5. However, there is a notable difference that Exception 2 requires the 1” masonry or concrete on “each” face of the foam while the proposed 2603.5.5.2 (as submitted) only calls for the exterior face.

A motion was recommended as follows:

Motion to recommend this aspect of the code change proposal be denied by the BBRS.

Motion: DC so moved 2nd: DL Vote: 7-0-1 MG abstained

The FPDF next discussed the second additional option (2603.5.5.3 as submitted). In reviewing the source materials provided for a number of criteria used in the fire-blocking conditions, members expressed concern for the lack of coordinated data. Elements of several different references were used and the information in the references are based on specific materials and products. It is sufficiently unclear that these criteria can be applied in the general manner contained in the proposal. Several members conveyed that the proponents need to revisit the issue. The FPDF also noted that they clearly understand the “real world” problem and are willing to work with the proponents on new proposals.

A motion was made to recommend that BBRS deny the change proposal as submitted.

Motion: GM so moved 2nd: DL Vote: 7-0-1 MG abstained

5. Additional Commenting via track change or red line editing of White Paper on fire protection.

Item 5 was tabled until the next meeting.

6. Overview of draft MA Amendments to International Building Code 2015 for adoption as the 9th Edition of 780 CMR and delegation of sections for review by FPDF members.

MG provided an overview of the draft amendments as assembled by staff with input from some stakeholders including building officials and engineers. GM asked if input was sought from either FCAM or FPAM. MG replied that neither group was contacted as yet. After some discussion and based on interest expressed by those present, it was decided to assign certain chapters to committee members for intimal review and presentation to the committee at the next meeting. It was also noted that anyone could review any chapter or section of their own accord. MG will prepare a Dropbox folder for disseminating the model code. Each person should submit their comments in writing to the folder. The committee will then coordinate and once a Final Committee Position is developed, that will be the document sent to the BBRS for consideration.

Assignments are as follows:

<u>Chapter</u>	<u>FPDF Member(s)</u>
2	PD
3	JP
4	ALL
5, 6, 7	RC
8	DL
9	ALL
10	GM
30	TBD (RC)
31	JH

7. Matters not reasonably anticipated within two business days of the meeting.

There were no new matters presented. The Chair reiterated that new matters should be submitted to the BBRS in writing.

8. Approval to adjourn the meeting

A motion was made to adjourn.

Motion: DL so moved 2nd: DC Vote: 8-0-0